

Patent claims

1. A mixing capsule for a two-component mixture with
 - a preferably cylindrical container part (13) with an end-face (17) with an ejection nozzle (19), and with an open rear side lying opposite the end-face, with an opening (16) for inserting a movable piston,
 - at least one piston (15) which is axially movable in the container part (13), wherein a first chamber is defined between the end-face of the container part (13) and the piston, said chamber serving for receiving a first, preferably powder-like component of a multi-component mixture;
 - a second chamber arranged on or in the piston (15) for receiving a second, preferably fluid or at least flowable component of the mentioned multi-component mixture,
 - a through-opening between the first and the second chamber which is closed in the initial condition, as well as
 - an axially displaceable activation means in order to open the initially closed passage between the first and the second receptacle and to transfer the contents of the one receptacle into the other receptacle,further characterised in that
 - a sleeve open at least on one side is provided which may be placed onto the mixing capsule,
 - an abutment surface for the axially displaceable activation means is provided on the sleeve,
 - that at least one U- or V-shaped guide path with a first and a second end as well as at least one guide element, e.g. a projection or protrusion is formed on the mixing capsule and on the sleeve,
 - that the first end of the guide path defines an access, and the second end an abutment for a guide element, and
 - that the guide element may engage into the guide path of the sleeve, wherein the guide element is located on the abutment of the guide path when the mixing capsule is filled, so that on removal of the sleeve, this must move in an activation direction forwards and back, and thereby actuates the activation means (37, 33).
2. A mixing capsule according to claim 1, characterised in that the guide path (57) is formed on the sleeve (53), and the guide element (63) on the mixing capsule (11).
3. A mixing capsule according to claim 1 or 2, characterised in that the guide path is a slot (57) or a groove (57a).
4. A mixing capsule according to one of the claims 1 to 3, characterised in that the guide element is a projection (63) formed on the container part (13).
5. A mixing capsule according to one of the claims 1 to 4, characterised in that in each case one guide element (63) is provided on oppositely lying sides of the mixing capsule (11), and in each case one guide path (57) on oppositely lying sides of the sleeve (53).
6. A mixing capsule according to one of the claims 1 to 5, characterised in that a movable displacement body (33) is provided in the first chamber (35) which fits into the second chamber (23) with a positive fit.

7. A mixing capsule according to one of the claims 1 to 6, characterised in that the displacement body (33) has a diameter corresponding essentially to the passage (25).
8. A mixing capsule according to one of the claims 1 to 7, characterised in that the displacement body (33) has a shape which is complementary to the second chamber (23).
9. A mixing capsule according to one of the claims 1 to 8, characterised in that displacement body (33) in the activated condition of the capsule (11) is accommodated essentially flush with the end-face (31) of the piston (15) in the second chamber (23).
10. A mixing capsule according to one of the claims 1 to 9, characterised in that the second chamber (23) is formed in the piston (15).
11. A mixing capsule according to one of the claims 1 to 10, characterised in that a membrane (29) covering over the passage (25) is deposited at the front onto the end-face (31) of the piston (15).
12. A mixing capsule according to claim 11, characterised in that the membrane (29) is welded onto the piston (15).
13. A mixing capsule according to one of the claims 1 to 12, characterised in that at least one sealing ring or sealing bead (32) is integrally formed on the piston casing.
14. A mixing capsule according to one of the claims 1 to 13, characterised in that the front part of the displacement body (33) tapers into a point.
15. A mixing capsule according to one of the claims 1 to 14, characterised in that at least one overflow channel (43) running in the axial direction is provided in the casing of the displacement body (33).
16. A mixing capsule according to one of the claims 1 to 15, characterised in that the activation means is an activation pin (37) which fits into the ejection nozzle (19) and is of such a length that the displacement body (33) may be displaced into the second chamber (23).
17. A mixing capsule according to claim 16, characterised in that the displacement body (33) is integral with the activation pin (37).
18. A mixing capsule according to claim 16 or 17, characterised in that a predetermined break location is provided between the displacement body (33) and the activation pin (37).
19. A mixing capsule according to one of the claims 1 to 18, characterised in that a recess (41) is provided on the base (45) of the displacement body (33) as a guide for the activation pin (37).
20. A mixing capsule according to one of the claims 1 to 19, characterised in that the displacement body (33) is a hollow or solid body with a flat base (45).
21. A mixing capsule according to one of the claims 1 to 20, characterised in that the activation means is a further piston which is displaceable in the piston (15) in the axial direction.

22. A method for activating a mixing capsule (11) accommodating at least two components of a multi-component mixture, with which method a first component of a multi-component mixture stored in a first chamber (35) is brought together with a second component of the multi-component mixture by way of displacing an activation part (33), characterised in that a sleeve (53) cooperating with the activation part (33) is arranged on the mixing capsule (11), and this sleeve is guided on the mixing capsule (11) in a movable manner such that on removal of the sleeve (53), the activation part (33) is forcibly displaced.

23. A method according to claim 21, characterised in that the sleeve (53) must be displaced relative to the mixing capsule (11) along a U- or V-shaped guide path (57) in an activation direction (69) forwards and back.